

Remarks

Applicant respectfully requests reconsideration of this application as amended. Claims 1-32 remain in this application. Claims 1, 11, 21, 24, 27, and 30 have been amended. No claims have been added or canceled.

Rejections under 35 U.S.C. § 103(a)

Claims 1-8, 10-18, 20-21, 23-24, and 26-32 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Walters et al., U.S. Patent Publication No. 2002/0176131, and Oksanen, et al., U.S. Patent Publication No. 2004/0057724. Applicant does not admit that Oksanen is prior art and reserves the right to swear behind the reference at a later date. Applicant respectfully submits that the combination does not disclose each and every element of the invention as claimed in claims 1-8, 10-18, 20-21, 23-24 and 26-32.

Walters discloses an optical communications network comprising multiple optical switches (Walters, Abstract). In this network, optical paths are setup to transport traffic across the optical network (Walters, paragraph 4). Each of the optical paths can be protected using different protection schemes, such as 1+1, 1:1, or 1:N protection (Walters, paragraphs 5-6). Furthermore, each of these protection schemes has a working path and a protection path, with the protection path being disjoint to some degree from the working path (Walters, paragraphs 5-6). A protected path can be link disjoint or node and link disjoint (Walters, paragraph 407).

On one hand, using 1+1 protection, traffic is transported concurrently on a working path and a protection path (Walters, paragraph 5, 289, 486). Upon failure of the working path, the traffic transported over the protection path is delivered to the user (Walters, paragraphs 6 and 502). On the other hand, Walters discloses that for a 1:1 protection scheme, the working path carries high priority traffic and the protection path carries low priority traffic (Walters, Fig. 53, paragraphs 6, 289, 487). Upon failure of the working path, the high priority traffic is switched to the protection path and pre-empts the low priority traffic (Walters, paragraph 5). However, Walters does not disclose how these protection paths are located. Furthermore, Walters does not disclose searching for a

protection path with disjoint constraints different from the disjoint constraints requested by a customer.

Oksanen discloses configuring optical links to form part of a ring network and arranging different protection types for different links (Oksanen, Abstract). Each optical link is provided with a protection level corresponding to the type of traffic carried on the links (*Id.*). High priority traffic receives a high protection levels, medium priority traffic receives a lower protection level, and low priority traffic has no protection level (Oksanen, paragraphs [0017] – [0019]). Oksanen's high protection level is achieved with 1+1 protection and the medium protection level is achieved with 1:1 protection (Oksanen, paragraphs [0017], [0018]). Thus, in Oksanen, discloses low, medium, and high levels of optical protection.

Applicant respectfully submits that Walters and/or Oksanen do not teach or suggest Applicant's claims. Both Walters and Oksanen disclose 1+1 and 1:1 optical protection schemes. However, neither reference discloses how the protection paths are located or assigned to a working path. Thus, neither reference teaches or suggests a "second protection path is a protection path for the second working path" and "assigning the second protection path as a protection path to the first working path if the first priority of the first protection scheme is higher than the second priority of the second protection scheme."

For example, claim 1, as amended, requires "receiving a demand for allocating a first protection path that meets a first set of disjointness constraints with respect to a first working path according to a first protection scheme having a first priority; in response to the demand, locating a second protection path that meets a second set of disjointness constraints with respect to a second working path according to a second protection scheme having a second priority, a second protection path is a protection path for the second working path; and assigning the second protection path as a protection path to the first working path if the first priority of the first protection scheme is higher than the second priority of the second protection scheme."

Furthermore, claim 10, as amended, requires, "a routing module to receive a demand for a first protection path that meets a set of disjointness constraints with respect to a first working path according to a first protection scheme having a first priority, in response to the demand, locate from the database a second protection path that meets a

second set of disjointness constraints with respect to a second working path according to a second protection scheme having a second priority, a second protection path is a protection path for the second working path, and assign the second protection path as a protection path to the first working path if the first priority of the first protection scheme is higher than the second priority of the second protection scheme.”

In addition, both Oksanen and Walters disclose low priority traffic is transported across an unprotected working path. Because this is an unprotected working path, there is no protection path for the low priority traffic. Applicant assumes that the Examiner equates Applicant’s second working path to either of Walters’ or Oksanen’s low priority traffic path. Furthermore, because Walters discloses preempting lower priority traffic so that path can be used as a protection path for higher priority traffic, Walters discloses preempting a working path. However, Walters does not teach or suggest preempting a protection path. Furthermore, Oksanen does not disclose preempting a protection path. Therefore, neither Walters nor Oksanen teach or suggest “preempting a second protection path that is a protection path of a second working path.”

Claim 27, as amended, requires “receiving a demand for a first protection path associated with a first working path according to a first protection scheme having a first priority, and preempting a second protection path that is a protection path of a second working path according to a second protection scheme having a second priority, if the first priority is higher than a second priority according to a protection scheme priority order specified by an owner of the network.”

Claim 30, as amended, requires “a routing module to receive a demand for a first protection path associated with a first working path according to a first protection scheme having a first priority, and preempt a second protection path that is a protection path of a second working path according to a second protection scheme having a second priority, if the first priority is higher than a second priority according to a protection scheme priority order specified by an owner of the network.”

Furthermore, Applicant respectfully submits that neither Walters nor Oksanen teaches or suggests that “if a first protection path cannot be located, searching for a second protection path that meets a second set of disjointness constraints and is currently

assigned as a protection path for another working path” as claimed in claims 21 and 24. As stated above, both Walters and Oksanen disclose protection paths, but do not disclose how the protection paths are allocated. Therefore, neither reference teaches or suggests “if a first protection path cannot be located, searching for a second protection path that meets a second set of disjointness constraints and is currently assigned as a protection path for another working path.”

For example, claim 21, as amended, requires “searching, in response to a demand for a protection path that meets a first set of disjointness constraints with respect to a working path, in a database for a first protection path that meets the first set of disjointness constraints; and if the first protection path cannot be located, searching for a second protection path that meets a second set of disjointness constraints and is currently assigned as a protection path for another working path, the second set of disjointness constraints being determined according to a disjointness preference order specified by an owner of the network.”

Furthermore, claim 24, as amended, requires “a routing module to search, in response to a demand for a protection path that meets a first set of disjointness constraints with respect to a working path, in a database for a first protection path that meets the first set of disjointness constraints, and if the first protection path cannot be located, search for a second protection path that meets a second set of disjointness constraints, the second set of disjointness constraints being determined according to a disjointness preference order specified by an owner of the network.”

The above quoted limitations are not described or suggested by Walters and/or Oksanen. While there are various uses for the invention as claimed, several such uses are discussed in paragraphs 101-104. Thus, while the invention is not limited to the uses discussed on these pages, it should be understood that Walters and/or Oksanen does not enable these uses and the above quoted limitations do.

For at least these reasons, Applicant respectfully submits that the independent claims are allowable. The Applicant respectfully submits that the dependant claims are allowable for at least the reason that they are dependent on an allowable independent claim.

Applicant respectfully submits that neither Walters nor Oksanen teaches or suggests “allocating another path as a protection path for the second working path if the second protection path is assigned to the first working path.” The section of Walters the Examiner cites as disclosing this element merely discloses that high and low traffic priority flows are supported during normal operations. However, this section of Walters does not teach or suggest the low priority traffic flow having its own protection path or being allocated another protection path.

Furthermore, as stated above, both Oksanen and Walters disclose low priority traffic is transported across an unprotected working path. Because this is an unprotected working path, there is no protection path for the low priority traffic. As above, Applicant assumes that the Examiner equates Applicant’s second working path to either of Walters’ or Oksanen’s low priority traffic path. The section of Walters the Examiner cites as disclosing the claimed element merely discloses that high and low traffic priority flows are supported during normal operations. However, this section of Walters does not teach or suggest the low priority traffic flow having its own protection path or being allocated another protection path. Therefore, neither Walters nor Oksanen can teach or suggest “allocating another path as a protection path for the second working path if the second protection path is assigned to the first working path.”

For example, claim 2 requires “allocating another path as a protection path for the second working path if the second protection path is assigned to the first working path.” Furthermore, claim 12 requires “the routing module allocates another path as a protection path for the second working path if the second protection path is assigned to the first working path.”

Claims 9, 19, 22 and 25 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Walters, Oksanen, and Wong, et al., U.S. Patent Publication No. 2003/0193898. Applicant respectfully submits that the combination does not teach each and every element of the invention as claimed in claim 9, 19, 22, and 25.

All of the above claims depend from one of the above identified independent claims. It is respectfully submitted that the above identified cited references, individually

or in combination, fail to disclose or suggest the limitations set forth the above independent claims.

SUMMARY

Applicant respectfully submits that the rejections have been overcome by the amendments and remarks, and that the Claims as amended are now in condition for allowance. Accordingly, Applicant respectfully requests the rejections be withdrawn and the Claims as amended be allowed.

Invitation for a telephone interview

The Examiner is invited to call the undersigned at 408-720-8300 if there remains any issue with allowance of this case.

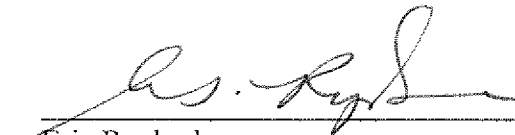
Charge our Deposit Account

Please charge any shortage to our Deposit Account No. 02-2666.

Respectfully submitted,

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